ABSTRACT OF THE DISCLOSURE

A rotary piston heat engine system ~~(100),~~ is composed of two units. Each includes ~~(I, II) each comprising~~ two pistons ~~(1, 2)~~ mounted for movement in opposite directions. Each ~~, the pistons being each~~ piston is mounted for rotation in a cylinder. The ~~(3, 3'), wherein the~~ longitudinal axes ~~(4, 4')~~ of the pistons ~~(2, 2')~~ and cylinder ~~(3, 3')~~ are collinear. The ~~, and the~~ pistons ~~(1, 2)~~ are mounted for movement in opposite directions. Effective ~~, and a plurality of effective~~ cylinder displacements ~~(8, 9, 11, 12) is~~ are formed in each case between two radial boundary surfaces ~~(10, 20)~~ of the two respective pistons ~~(1, 2)~~, which execute an angular motion relative to each other when the engine ~~(100)~~ is operating. At ~~, and at~~ least one mechanism ~~(110) is provided that~~ superimposes a circular motion on the angular motion of the two pistons ~~(1, 2)~~, and each unit ~~comprises~~ includes a shaft ~~(6, 6')~~ for driving a torque-producing device. The system also includes a heater ~~(5, 5', 5''), and heating means~~, a heat ~~storage means~~ storer and ~~cooling means~~ a cooler connected to a pipe system ~~are provided~~, by ~~means of~~ which the inlet ports ~~(130, 130'; 131, 131')~~ and outlet ports ~~(140, 140'; 141, 141')~~ of the displacements of the cylinders ~~(3, 3')~~ of the units ~~(I, II)~~ are connected to each other~~, can be adapted for a plurality of different operational states, such as different temperature and pressure conditions in the cylinders, by the~~

~~provision of a compensating device that balances the positions of the respective pistons in the two units (I, II) in the event of a possible phase shift in the synchronization of the two units (I, II), in order to effect an optimal phase response.~~